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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/552,176      | 10/05/2005  | Akira Takaki         | 5404/118            | 6532             |

757 7590 10/31/2006

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EXAMINER

TOSCANO, ALICIA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1712

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/552,176

Applicant(s)

TAKAKI ET AL.

Examiner

Alicia M. Toscano

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1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/17/06 10/05/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Alsamarraie (US 5079293).

Alsamarraie discloses thermoplastic compositions containing combined modifiers. Said compositions comprise 99 to 37 parts by weight of a thermoplastic resin and 1 to 63 parts of a polyorganosiloxane/polyvinyl-based graft copolymer (Column 20 Lines 48-57), which may also contain a filler (Column 20 Lines 12-24). Use of 0.9 parts by weight stabilizer, or filler, are disclosed in Table 1, meeting the requirements of Claim 1. The polyorganosiloxane containing graft copolymer is prepared by first polymerizing a 3-97 wt% vinyl monomer in the presence of 97-3 wt% polyorganosiloxane, to produce the co-homopolymer (Column 18 Lines 23-31), this meets the requirement of polymerizing 0-10 wt% vinyl monomers (d) in the presence of the polyorganosiloxane (a). The vinyl monomer of this step can be divinylbenzene, butadiene, isoprene and chloroprene (Column 17 Line 65, Column 18 Line 5), or a polyfunctional monomer containing 2 or more unsaturated bonds. When only one of these monomers is used, the requirement of using 100% polyvinyl monomers is satisfied, or polyfunctional monomer (b). The resulting polyorganosiloxane/vinyl monomer product is then further

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reacted in order to graft polymerize additional vinyl-functional moieties onto the latex formed in the first stage (Column 16 Lines 52-55), or vinyl monomer (e). The vinyl moieties used in this step are disclosed in Column 16 Lines 56-Column 17 Line 5. The second vinyl based component will comprise about 5 to 45 wt% of the product from first stage (Column 18 Lines 29-31). Thus the requirements of Claims 2 and 3 are met.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirai (JP 6073276).

Shirai discloses a thermoplastic resin comprising 60-99 wt% thermoplastic resin, 40-1 wt% polyorganosiloxane and over 5 wt% fibrous reinforcement [0006], or filler. Said polyorganosiloxane is grafted with a glycidyl containing vinyl monomer (abstract), thus meeting the requirements of Claims 1 and 4.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Alsamarraie in view of Koshirai (EP 476293A1).

Alsamarrai includes elements of the invention as discussed above. Alsamarrai does not include the use of epoxy group containing monomers for the second step polymerization of the polyorgansiloxane. Koshirai discloses polyester resins with polyorganosiloxane graft copolymers which include a first step of polymerizing a vinyl monomer in the presence of a polyorganosiloxane, and a second step of further polymerizing a epoxy group containing vinyl monomer onto the product of step 1 (abstract). Polymerizing a vinyl monomer containing a glycidyl methacrylate onto the polyorganosiloxane compound results in superior impact resistance at room or low temperature in comparison to examples where no glycidyl methacrylate is used (See Examples 1-10, Comp Ex 4 and 5, and summary pg 6 Lines 3-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Alsamarraie the use of glycidyl containing vinyl monomers in the second polymerization step, as taught by Koshirai, in order to improve the impact resistance of the thermoplastic resin.

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***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

X references:

JP5025377 reads on Claims 1 and 2, however no polyunsaturated monomers are disclosed and as such US 5079293 was superior.

JP2003012903 reads on Claims 1 and 2 however only 20% of polyunsaturated monomer is disclosed. Thus US 5079293 was superior.

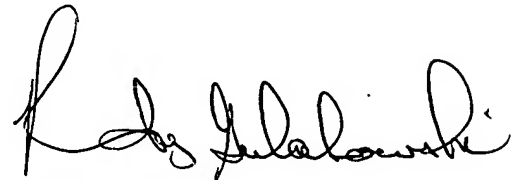
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Toscano whose telephone number is 571-272-2451. The examiner can normally be reached on Monday to Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMT

A handwritten signature in black ink, appearing to read 'Randy Gulakowski', is positioned above the printed name and title.

RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700